Appl. No. 09/511,795
Amdt. Dated June 17, 2004
Reply to Office action mailed March 17, 2004

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): In a multi-service network switch, a method for providing tiered access to system resources, the method comprising:

maintaining in a data store of the network switch ~~an access level of~~ two or more access tiers <u>including a first set of one or more access tiers and a second set of one or more access tiers,</u> [[for]] <u>each of the access tiers associated with a connection request characteristic</u> ~~a characteristic associated with a connection request, the access level for each of the access tiers being associated with~~ <u>and</u> an access threshold;

receiving an incoming connection request;

determining the characteristic of the incoming connection request;

~~retrieving the access level for the determined characteristic from the data store;~~

~~assigning the retrieved access level to the incoming connection request;~~

<u>determining the access tier associated with the incoming connection request;</u>

identifying [[the]] <u>a</u> resource ~~request~~ <u>requested</u> by the <u>incoming</u> connection request;

<u>if the incoming connection request is associated with the first set of one or more access tiers, then automatically allocating the identified resource;</u>

<u>if the incoming connection request is associated with the second set of one or more access tiers, then:</u>

determining an amount of current usage for the identified resource; and

allocating the identified resource to the incoming connection request if the amount of current usage is less than the <u>associated</u> access threshold ~~associated with the assigned level.~~

Claim 2 (currently amended): The method of claim 1 further comprising:

if the incoming connection request is associated with the second set of one or more access tiers, then:

terminating an established connection if the amount of current usage is greater than the associated access threshold based on its access level; and

deallocating the resource previously allocated to the terminated connection.

Claim 3 (currently amended): The method of claim 3, wherein the system resources are partitioned among a plurality of virtual routers, and the monitoring of current usage of the system resources comprises monitoring usage of the system resources associated with each virtual router.

Claim 4 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of inlink carrying the incoming connection request.

Claim 5 (original): The method of claim 1, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

Claim 6 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 7 (currently amended): The method of claim 1 further comprising:

communicating a request for the identified resource, the communicated request including the identified quality of access level tier;

communicating a response indicating that the identified resource is available; and

communicating a request to allocate the identified resource.

Claim 8 (currently amended): A multi-service network switch providing tiered access to system resources, the switch comprising:

a data store storing an access level of two or more access tiers including a first set of one or more access tiers and a second set one or more access tiers, for each of the access

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tiers associated with a connection request characteristic a characteristic associated with a

connection request, the access level for each of the access tiers being associated with and

an access threshold;

 means for receiving an incoming connection request;

 means for determining the characteristic of the incoming connection request;

 means for retrieving the access level for the determined characteristic from the data

store;

 means for assigning the retrieved access level to the incoming connecting request;

 means for determining the access tier associated with the incoming connection

request;

 means for identifying [[the]] a resource request requested by the incoming connection

request;

 means for automatically allocating the identified resource, executed when the

connection request is associated with the first set of one or more access tiers;

 means for determining an amount of current usage for the identified resource,

executed when the connection request is associated with the second set of one or more

access tiers; and

 means for allocating the identified resource to the incoming connection request,

executed when [[if]] the amount of current usage is less than the associated access

threshold associated with the identified access level and the connection request is

associated with the second set of one or more access tiers.

Claim 9 (currently amended): The switch of claim 8 further comprising:

 means for terminating an established connection based on its access level tier,

executed when the connection request is associated with the second set of one or more access

tiers and the amount of current usage is greater than the associated access threshold; and

 means for deallocating the resource previously allocated to the terminated connection,

executed when the connection request is associated with the second set of one or more access

tiers and the amount of current usage is greater than the associated access threshold.

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Claim 10 (currently amended): The switch of claim 9 wherein the system resources are partitioned among a plurality of virtual routers, and the means for monitoring <u>of current</u> usage of the system resources comprises means for monitoring usage of the system resources associated with each virtual router.

Claim 11 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a characteristic of the incoming call.

Claim 12 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a type of user submitting the connection request.

Claim 13 (currently amended): The switch of claim 8 further comprising:

means for communicating a request for the identified resource, the communicated request including the identified quality of ~~level~~ tier;

means for communicating a response indicating that the identified resource is available; and

means for communicating a request to allocate the identified resource.

Claim 14 (currently amended): A multi-service network switch including a plurality of interface modules, each interface module comprising:

<u>a plurality of</u> interface lines for receiving an incoming connection request;

a data store storing ~~an access level of~~ two or more access tiers <u>including a first set of one or more access tiers and a second set of one or more access tiers,</u> ~~for~~ <u>each of the</u> access tiers associated with a connection request ~~a characteristic associated with a connection request, the access level for each of the access tiers being associated with~~ <u>and</u> an access threshold; and

a processor coupled to the data store, the processor being operable to execute program instructions ~~including~~ for:

determining the characteristic of the incoming connection request;

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~~retrieving the access level for the determined characteristic from the data store;~~

~~assigning the retrieved access level to the incoming connection request;~~

determining the access tier associated with the incoming connection request;

identifying [[the]] a resource requested by the incoming connection request;

communicating [[a]] the resource request for the identified resource, the communicated request including the ~~assigned quality of access level~~ determined access tier;

receiving a response indicating [[that]] ~~the~~ an identified resource availability ~~is available~~; and

communicating a request to allocate the identified resource.

Claim 15 (currently amended): The interface module of claim 14, wherein the program instructions further comprise:

monitoring usage of the local resources for at least each access ~~level~~ tier of the second set one or more access tiers;

receiving the request for the identified resource;

if the connection request is associated with the first set of one or more access tiers, automatically allocating the identified resource;

if the connection request is associated with the second set of one or more access tiers, then:

determining an amount of current usage for the identified resource; and

allocating the identified resource to the incoming connection request if the amount of current usage is less than the associated access threshold ~~associated with the assigned access level~~.

Claim 16 (currently amended): The interface module of claim 14 wherein the program instructions further comprise:

if the incoming connection request is associated with the second set of one or more access tiers, then:

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terminating an established connection <u>if the amount of current usage is greater than</u> <u>the associated access threshold</u> ~~based on its access level~~; and

deallocating the resource previously allocated to the terminated connection.

Claim 17 (previously presented): The interface module of claim 14, wherein the local resources are partitioned among the plurality of virtual routers, and the data store stores the list of local resources for each virtual router.

Claim 18 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of inlink carrying the incoming request

Claim 19 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

Claim 20 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 21 (currently amended): The method of claim 2, wherein if there are more than one allocated connection having the same assigned access ~~level~~ <u>tier</u> to be terminated, the order of terminating is according to first-in-first-out.

Claim 22 (currently amended): The multi-service network switch of claim 9, wherein if there are more than one allocated connection having the same assigned access ~~level~~ <u>tier</u> to be terminated, the order of terminating by the means for terminating is according to first-in-first-out.

Claim 23 (currently amended): The multi-service network switch of claim 16, wherein if there are more than one allocated connection having the same assigned access ~~level~~ <u>tier</u> to be terminated, the order of terminating by the program instructions is according to first-in-first-out.

Claim 24 (currently amended): In a multi-service network switch, a method for providing tiered access to system resources, the method comprising:

maintaining in a data store of the network switch ~~an access level of~~ two or more access tiers including a first set of one or more access tiers and a second set one or more access tiers, [[for]] each of the access tiers associated with a connection request characteristic ~~a characteristic associated with a connection request, the access level for each of the access tiers being associated with~~ and an access threshold;

receiving an incoming connection request;

determining the characteristic of the incoming connection request;

~~retrieving the access level for the determined characteristic from the data store;~~

~~assigning the retrieved access level to the incoming connection request;~~

determining the access tier associated with the incoming connection request;

identifying [[the]] a resource ~~request~~ requested by the incoming connection request;

determining an amount of current usage for the identified resource;

if the connection request is associated with the first set of one or more access tiers, automatically allocating the identified resource;

if the connection request is associated with the second set of one or more access tiers, then:

allocating the identified resource to the incoming connection request if the amount of current usage is less than the access threshold associated with the assigned ~~level~~ tier; and

terminating an established connection based on its access ~~level~~ tier if the amount of current usage is greater than the associated access threshold ~~associated with the assigned level~~.